

What is claimed is:

1. A method for re-using an array of storage devices, comprising:
using firstly an array of storage devices to conduct read/write operations under control
of at least a first controller including providing metadata to each of said storage devices of
said array;

ascertaining that a failure has occurred;
discontinuing use of at least two of said storage devices of said array related to
conducting read/write operations based on the failure; and

using secondly said array of storage devices after said discontinuing step while
substantially avoiding writing previously stored data and/or parity to said at least two storage
devices that was present before the failure.

2. A method, as claimed in Claim 1, wherein:
the failure is a transient failure and is related to at least one of:
an array enclosure;
a back plane;
a cable;
said first controller;
an interface; and
software involved with operation of said first controller.

3. A method, as claimed in Claim 1, wherein:
said using secondly step includes making a determination related to being able to use
said array of storage devices including said at least two thereof.

4. A method, as claimed in Claim 3, wherein:
said making step includes checking whether one or more of said storage devices is
off-line.

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5. A method, as claimed in Claim 1, wherein:
said using secondly step includes modifying metadata on each of said storage devices.

6. A method, as claimed in Claim 1, wherein:
said using secondly step includes issuing a trust array command to said first controller that causes at least one of the following: a partition age metadata field to be synchronized on each of said storage devices of said array; writing all zeros in a primary dead partition map;
5 and setting a partition status metadata field to initialized.

7. A method, as claimed in Claim 6, wherein:
said using secondly step includes determining whether each of said storage devices of said array is accessible after said issuing step.

8. A method, as claimed in Claim 7, wherein:
said using secondly step includes controlling re-use of said array when it is determined that no more than one of said storage devices of said array is off-line.

9. A method, as claimed in Claim 7, wherein:
allowing data and/or parity to be read by said first controller when more than one of said storage devices is off-line and reading said data and/or parity from said storage devices of said array that are on-line.

10. A method, as claimed in Claim 1, wherein:
said using secondly step includes controlling re-use of said array based on one of: a user determination and an automatic determination independently of the user.

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11. A method, as claimed in Claim 10, wherein:
said using secondly step includes generating a command by a host and transmitting
said command to said first controller.

12. A method, as claimed in Claim 11, wherein:
said command is initiated manually by the user of said array.

13. A method, as claimed in Claim 1, wherein:
said substantially avoiding writing previously stored data and/or parity includes
substantially avoiding restoring and/or reconstructing data and/or parity.

14. A system in which an array of storage devices are re-used after use of at least
one storage device of the array is discontinued based on a fault, comprising:

an array of storage devices relative to which read and write data transfers are
conducted;

5 a controller communicating with said array of storage devices for conducting
read/write operations; and

a host communicating with said controller that makes requests related to data to be
stored and data to be obtained from said array of storage devices;

10 wherein said host is used in generating a trust array command related to updating
metadata on each of said storage devices of said array after a fault occurs and after use of said
array was discontinued due to the fault.

15. A system, as claimed in Claim 14, wherein:
said trust array command is generated in response to input from a user of the system.

16. A system, as claimed in Claim 14, wherein:
said trust array command is generated independently of any reconstruction and/or
restoration of said array.

17. A system, as claimed in Claim 14, wherein:

18. \ A system, as claimed in Claim 14, wherein:

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19. A system, as claimed in Claim 14, wherein:

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